STANDARDS OF APPRENTICESHIP
adopted by

WESTERN WASHINGTON STATIONARY ENGINEERS APPRENTICESHIP COMMITTEE
(sponsor)

Skilled Occupational Objective(s):	DOT	Term
FACILITIES MAINTENANCE MECHANIC	899.381-010	8000 HOURS
STATIONARY ENGINEER	950.382-026	8000 HOURS
WAREHOUSEMAN	922.687-058	2000 HOURS

APPROVED BY
Washington State Apprenticeship and Training Council
REGISTERED WITH
Apprenticeship Section of Specialty Compliance Services Division
Washington State Department Labor and Industries
Post Office Box 44530
Olympia, Washington 98504-4530

APPROVAL:

JANUARY 28, 1972 Initial Approval	JANUARY 17, 2003 Committee Amended
JANUARY 17, 2003 Standards Amended (review)	JULY 18, 2003 Standards Amended (administrative)
By: LAWRENCE CROW Chair of Council	By: PATRICK WOODS Secretary of Council

WESTERN WASHINGTON STATIONARY ENGINEERS APPRENTICESHIP COMMITTEE

The Washington State Apprenticeship and Training Council (WSATC) has the authority to develop, administer, and enforce apprenticeship program standards (Standards) for the operation and success of an apprenticeship and training program in the State of Washington. Apprenticeship programs and committees function, administer, or relinquish authority only with the consent of the WSATC and only apprentices registered with the supervisor or recognized under the terms and conditions of a reciprocal agreement will be recognized by the WSATC. Parties signatory to these Standards declare their purpose and policy is to establish and sponsor an organized system of registered apprenticeship training and education.

These Standards are in conformity and are to be used in conjunction with the Apprenticeship Rules, Chapter 296-05 WAC (Washington Administrative Code); Apprenticeship Act, Chapter 49.04 RCW (Revised Code of Washington); The National Apprenticeship Act, 29 U.S.C. (United States Code) 50; Apprenticeship Programs, Title 29 Part 29 CFR (Code of Federal Regulations); and Equal Employment Opportunity in Apprenticeship and Training, Title 29 Part 30 CFR which govern employment and training in apprenticeable occupations. They are part of this apprenticeship agreement and bind all signers to compliance with all provisions of registered apprenticeship. Additional information may need to be maintained by the program that is supplemental to these apprenticeship standards. This information is for purposes of ensuring compliance with decisions of the WSATC and the apprenticeship laws identified above.

If approved by the council, such amendment/s and such changes as adopted by the council shall be binding to all parties. Sponsors shall notify apprentices of changes as they are adopted by the council. If and when any part of these Standards becomes illegal, as pertains to federal and/or state law, that part and that part alone will become inoperative and null and void, and the Department of Labor and Industries (L&I) may adopt language that will conform to applicable law. The remainder of the Standards will remain in full force and effect.

See WAC 296-05-003 for the definitions necessary for use with these Standards.

The following Standards for the development of Stationary Operating Engineer apprentices have been prepared by Local 286, International Union of Operating Engineers and Industry representatives, assisted by the Apprenticeship Division, Department of Labor and Industries. When approved and registered with the Washington State Apprenticeship Council, these Standards will govern the training of apprentices in the industry.

I. GEOGRAPHIC AREA COVERED:

The sponsor has no authority to conduct training outside of the geographical area covered by these Standards. The sponsor may enter into an agreement (portability agreements – see WAC 296-05-303(3)) with other apprenticeship committees for the use of apprentices by training agents that are working outside their approved geographic area. Also, if a reciprocity agreement (see WAC 296-05-327) is in place, the out-of-state sponsor may use their registered apprentices. The sponsor will ensure compliance with the provisions of any agreement recognized by the WSATC.

The area covered by these Standards shall be all of Western Washington.

II. MINIMUM QUALIFICATIONS:

Minimum qualifications must be clearly stated and applied in a nondiscriminatory manner (see WAC 296-05-316).

Age: **Shall not be less than nineteen (19) years of age at time of application.**

Education: **Must have high school or GED.**

Physical: **Must be able to meet the needs of the trade.**

Testing: **N/A**

Other: **N/A**

III. CONDUCT OF PROGRAM UNDER WASHINGTON EQUAL EMPLOYMENT OPPORTUNITY PLAN:

Sponsors with five (5) or more apprentices must adopt an Equal Employment Opportunity (EEO) Plan and Selection Procedures (see Part D of Chapter 296-05 WAC and 29 CFR Part 30).

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, sex, color, religion, national origin, age, disability or as otherwise specified by law. The sponsor shall take positive action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required by the rules of the Washington State Apprenticeship and Training Council and Title 29, Part 30 of the Code of Federal Regulations. (WAC 296-05-316(3))

A. Selection Procedures:

1. **The International Union of Operating Engineers Union, Local 286 and the Western Washington Stationary Engineers Apprenticeship Committee are not in any way serving as a referral agency and persons desiring apprenticeship training under the Western Washington Stationary Engineers Apprenticeship Committee shall make application to an employer approved by the Apprenticeship Committee and, on becoming employed, appear before the Apprenticeship Committee to be interviewed. At the time of the interview, the applicant shall be informed of the**

obligation to abide by the Standards established for the trade. Upon acceptance of the applicant, the Apprenticeship Committee shall make an evaluation based on the employer's recommendation and place him/her in the proper work experience and wage progression period and register the applicant with the Registration Agency.

2. **The applicant will sign the "Record of Apprentice Applicants" form and will be given an "Application for Apprenticeship" and will return same to Apprenticeship Coordinator.**

3. **The applicant will be instructed to request a transcript of all school records, which will be forwarded to the Apprenticeship Committee Coordinator.**

4. **Each applicant will be instructed to attend a regular meeting of the Apprenticeship Committee and/or Apprenticeship Committee Coordinator in which the applicant is to be registered. The purpose of the applicant's attendance is to explain the apprenticeship program and the responsibilities the apprentice must fulfill during the term of apprenticeship.**

5. **All employers hiring apprentices must sign a compliance form agreeing to be bound by the Affirmative Action Program contained in these Standards and as approved by the Washington State Apprenticeship and Training Council.**

B. Equal Employment Opportunity Plan:

1. **Participation in annual workshops, if available, designed to familiarize all concerned with the apprenticeship system and current opportunities.**

2. **Cooperate with school boards, community colleges and vocational schools to develop programs, which prepare students for entrance into apprenticeship.**

3. **Disseminate information, within shops or concerns, concerning equal opportunity policies of the program's Sponsor(s).**

4. **Grant credit for previous trade experience or trade-related courses for all applicants equally.**

5. **Engage in any other such action as stated above to ensure that recruitment, selection, employment and training of apprentices during apprenticeship shall be without discrimination because of race, color, religion, national origin or sex.**

Discrimination Complaints.
Any apprentice or applicant for apprenticeship who believes they have been discriminated against may file a complaint (WAC 296-05, Part D).

IV. TERM OF APPRENTICESHIP:

The minimum term of apprenticeship must not be less than 2000 hours or 12 months of work experience in each occupation identified in these Standards as apprenticeable. The term of apprenticeship must be stated in hours or months of employment.

The term of apprenticeship for Stationary Engineer and Facilities Maintenance Mechanic Apprentices shall be four (4) years (8000 hours) of reasonably continuous employment divided into eight (8) equal pay periods of six (6) months duration, including the probationary period.

The term of apprenticeship for Warehouseman Apprentices shall be one (1) year (2000 years) of reasonable continuous employment divided into two (2) equal pay periods of six (6) months duration.

V. INITIAL PROBATIONARY PERIOD:

All apprentices are subject to an initial probationary period, stated in hours or months of employment for which they receive full credit toward completion of apprenticeship. Advance credit/standing will not reduce the initial probationary period. The initial probationary period:

- Is the period following the apprentice's acceptance into the program and during which the apprentice's appeal rights are impaired. The initial probation must not exceed twenty percent (20%) of the term of apprenticeship unless an exemption by the WSATC has been granted for longer probationary periods as specified by Civil Service or law.

- Is the period that the WSATC or the supervisor of apprenticeship may terminate an apprenticeship agreement at the written request by any affected party. The sponsor or the apprentice of the apprenticeship agreement may terminate the agreement without a hearing or stated cause. An appeal process is available to apprentices who have completed the initial probationary period.

The probationary period for Stationary Engineer and Facilities Maintenance Mechanic Apprentices shall be not less than the first six (6) months (1000 hours) of reasonably continuous employment.

The probationary period for Warehouseman Apprentices shall be not less that the first (420 hours) or reasonably continuous employment.

VI. RATIO OF APPRENTICES TO JOURNEY LEVEL WORKERS:

Supervision is the necessary education, assistance, and control provided by a journey-level employee that is on the same job site at least seventy-five percent of each working day, unless otherwise approved by the WSATC. The sponsor will assure that apprentices are under the supervision of competent and qualified journey-level workers on the job who are responsible for the work being performed, to ensure safety and training in all phases of the work. Apprentices will work the same hours as journey-level workers, EXCEPT where such hours may interfere with related/supplemental instruction. (see WAC 296-05-316(5))

A. Stationary Engineer

1. **One (1) apprentice per every four (4) engineers employed in a specific facility. There shall be no more than two (2) apprentices employed at one time in any specific facility, regardless of the number of journey-level workers employed in that facility at the time. By special request to Western Washington Stationary Engineers Apprenticeship Committee an employer may request up to four (4) apprentices at a specific facility.**

2. **An employer facility having three (3) or less engineers employed shall be entitled to one (1) apprentice.**

B. Facilities Maintenance Mechanic

Ratio of apprentices will be one (1) apprentice to one (1) journey-level worker in a specific facility.

C. Warehouseman

Ratio of apprentices will be one (1) apprentice to one (1) journey-level worker in a specific facility.

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

The apprentice will be paid a progressively increasing schedule of wages based on specified percentages of journey-level wage consistent with skills acquired. These may be indicated in hours or monthly periods set by the sponsor. The entry wage will not be less than the minimum wage prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage is required by other applicable federal law, state law, respective regulations, or by collective bargaining agreement.

The sponsor may accelerate, by an evaluation process, the advancement of apprentices who demonstrate abilities and mastery of the occupation to the level for which they are qualified. When the apprentice is granted advanced standing the sponsor must notify the employer/training agent of the appropriate wage per the wage progression schedule specified in these Standards.

A. Stationary Engineer and Facilities Maintenance Mechanic

Step	Number of hours/months	Percentage of journey-level rate
1	**0000 - 1000 hours**	**60%**
2	**1001 - 2000 hours**	**65%**
3	**2001 - 3000 hours**	**70%**
4	**3001 - 4000 hours**	**75%**
5	**4001 - 5000 hours**	**80%**
6	**5001 - 6000 hours**	**85%**
7	**6001 - 7000 hours**	**90%**
8	**7001 - 8000 hours**	**95%**

B Warehouseman

Step	Number of hours/months	Percentage of journey-level rate
1	**0000 - 1000 hours**	**90%**
2	**1001 - 2000 hours**	**95%**

VIII. WORK PROCESSES:

The apprentice shall receive on the job instruction and experience as is necessary to become a qualified journey-level worker versed in the theory and practice of the occupation covered by these Standards. The following is a condensed schedule of work experience, which every apprentice shall follow as closely as conditions will permit.

Employers/training agents shall only use registered apprentices to perform the work processes as stated in this section. (WAC 296-05-003 - Definitions)

A. Facilities Maintenance Mechanic **Approximate Hours**

1. Orientation.....200
- **a. Terminology**
- **b. Maintenance procedures**
- **c. Safety procedures/fire safety**
- **d. Building codes**

2 Tool Usage and Care.....1100
- **a. Hand tools**
- **b. Power Tools**
- **c. Electronic controls/computer equipment**

3 Preventive Maintenance 700
- **a. Record keeping (work orders)**
- **b. Proper use of usable spare parts**
- **c. Inventory systems**
- **d. Purchase ordering procedures**
- **e. Quality control procedures**

4. Facility.....3000
- **a. Interior structure**
- **b. Exterior structure**

5. Repair and Maintenance 3000
- **a. Equipment**
- **b. Machinery**

TOTAL HOURS: 8000

B. Stationary Engineer: **Approximate Hours**

The apprentice will work directly under a journey-level engineer and from whom the apprentice will receive instruction in all phases of the trade. This experience is to develop a practical and skilled engineer versed in the theory and practice of the Stationary Operating Engineers trade.

The major processes in which the apprentices will be trained and the approximate number of hours to be spent on each process are as follows:

1. Plant Operation.....800
- **a. Air Compressors**
- **b. Air Conditioners**
- **c. Air Dryers**
- **d. Boilers**
- **e. Chillers**
  - **(1) Absorption**
  - **(2) Reciprocating**
  - **(3) Centrifugal**
- **f. Controls**
  - **(1) Direct Digital**
  - **(2) Electric**
  - **(3) Electronic**
  - **(4) Pneumatic**
- **g. Cooling Towers**
- **h. Fan Units**
- **i. Fire Alarm Systems**
- **j. Heat Exchangers**
  - **(1) Air to Air**
  - **(2) Air to Water**
  - **(3) Water to Air**
  - **(4) Water to Water**
- **k. Heat Pumps**
- **l. Humidifiers**
- **m. Lighting**
- **n. Motors and Motor Starters**
- **o. Production Equipment**
- **p. Pumps**
- **q. Refrigeration Equipment**
- **r. Resource Recovery and CO-Generation Equipment AC/DC Power Generation**
- **s. Steam Turbines and Engines**
- **t. Special Machinery**

2. Monitoring Plant Operations 1000

a. Air Compressor
- **(1) Check oil pressure**
- **(2) Check oil level**
- **(3) Check pressure controls for proper operation**
- **(4) Drain moisture from receiver**
- **(5) Check cooling water temperature**
- **(6) Investigate any unusual operation or noise**

b. Air Conditioners
- **(1) Check air and/or water flow**
- **(2) Check for proper temperature control**
- **(3) Check for proper operation of electrical controls**
- **(4) Investigate any unusual operation or noise**

c. Air Dryers
- **(1) Check oil pressure**
- **(2) Check oil level**
- **(3) Check air differential pressures**
- **(4) Check pressure controls for proper operation**
- **(5) Drain moisture traps**
- **(6) Check air discharge temperatures**
- **(7) Investigate any unusual operation or noise**

d. Boilers
- **(1) Check water level**
- **(2) Drain gauge glass**
- **(3) Check low water controls**
- **(4) Check high water controls**
- **(5) Blowdown water column**
- **(6) Check surface blowdown**
- **(7) Perform a bottom blowdown**
- **(8) Check flame failure controls**
- **(9 Perform a water analysis and treat accordingly**
- **(10) Check fuel oil temperature and pressure**
- **(11) Check atomizing air/steam pressure**
- **(12) Check fuel oil tank quantity and moisture**
- **(13) Check steam/water temperature/pressure**
- **(14) Check the feedwater temperature and pressure**
- **(15) Check quantity of make-up water**
- **(16) Check flue gas temperature and opacity**
- **(17) Clean and change burners**
- **(18) Check burner operation**
- **(19) Clean oil and water strainers**
- **(20) Investigate any unusual operation or noise**

e. Chillers

(1) Check the compressor oil level, temperature and pressure
(2) Check the suction and discharge temperature/pressure
(3) Check the inlet vane ore slide vane position
(4) Check the motor amperage and voltage
(5) Check the steam pressure
(6) Check the cooler refrigerant temperature and pressure
(7) Check the brine concentrations
(8) Check the cooler water inlet and outlet temperature and pressures
(9) Check the condenser refrigerant temperature and pressure
(10) Check the condenser water inlet and outlet temperature and pressures
(11) Investigate any unusual operation or noise

f. Controls
(1) Direct Digital
Monitor computer-controlled equipment, temperatures, pressures, volumes, etc.
(2) Electric
Monitor electric-controlled equipment, temperatures, pressures, volumes, etc.
(3) Electronic
Monitor electronic-controlled equipment, temperatures, pressures, volumes, etc.
(4) Pneumatic
Monitor pneumatic-controlled equipment, temperatures, pressures, volumes, etc.

g. Cooling Towers
(1) Check for proper fan, pump, and damper operation
(2) Check sump water level
(3) Perform a water analysis and treat accordingly
(4) Investigate any unusual operation or noise

h. Fan Units
(1) Check for vibration
(2) Visual check of belts and/or couplings
(3) Check motor and fan bearing temperatures
(4) Check inlet/outlet van/damper operation
(5) Check pressure and/or temperature differentials across heating coils, cooling coils, humidifiers, filter banks, etc)
(6) Investigate any unusual operation or noise

i. Fire Alarm Systems
(1) Disable/enable zones as needed

(2) Perform emergency procedures as directed by the Fire Department
(3) Check "trouble" zones
(4) Investigate any unusual operation

j. Heat Exchangers
(1) Air to Air
Check pressure and/or temperature differentials of all air streams and filter banks
(2) Air to Water
Check pressure and/or temperature differentials of all air and water streams and filter banks
(3) Water to Air
Check pressure and/or temperature differentials of all air and water streams and filter banks
(4) Water to Water
Check pressure and/or temperature differentials of all waters streams and filter banks

k. Heat Pumps
(1) Check air and/or water flow
(2) Check for proper temperature control
(3) Check for proper operation of electrical controls
(4) Investigate any unusual operation or noise

l. Humidifiers
(1) Check pans for proper level and purging and/or drainage
(2) Check for proper nozzle operation
(3) Check for proper lamp operation
(4) Investigate any unusual operation or noise

m. Lighting
(1) Check for burned out lamps and/or ballast
(2) Check for proper lighting levels

n. Motors and Motor Starters
(1) Check for vibration
(2) Visual check of belts and/or couplings
(3) Check motor bearing temperatures
(4) Check amperage and voltage readings
(5) Investigate any unusual operation or noise

o. Production Equipment
(1) Check bearings, belts, sprockets, sheaves, chains, and conveyers for proper tension, lubrication and operation
(2) Monitor temperatures, pressures, and flow rates
(3) Check for proper operation of electrical controls
(4) Investigate any unusual operation or noise

p. Pumps
(1) Check for vibration

(2) Visual check of belts and/or couplings
(3) Check motor and pump bearing temperatures
(4) Check inlet/outlet valve operation and position
(5) Check pressure and/or temperature differentials across pump
(6) Investigate any unusual operation or noise

q. Refrigeration Equipment
(1) Check air and/or water flow
(2) Check for proper temperature control
(3) Check for proper operation of electrical controls
(4) Investigate any unusual operation or noise

r. Resource recovery and co-generation equipment AC/DC Power Generation
(1) Check for proper temperatures and pressures
(2) Check amperage and voltage readings
(3) Check for proper fuel levels and filtering
(4) Check for proper cooling and air flows
(5) Check for proper synchronization and phases
(6) Check for proper operation of electrical controls
(7) Investigate any unusual operation or noise

s. Steam Turbines and Engines
(1) Check for proper steam pressures and temperatures
(2) Check for proper pressures and temperatures for lubrication
(3) Check for proper speed and control
(4) Investigate any unusual operation or noise

t. Special Machinery
(1) Check for proper temperatures and pressures
(2) Check for proper lubrication
(3) Check amperage and voltage readings
(4) Check for proper operation of electrical controls
(5) Check bearing, belts, sprockets, sheaves, chains, and conveyors for proper tension, lubrication and operation
(6) Investigate any unusual operation or noise

3. Diagnostic Analysis 1300

a. Water Analysis
(1) Hot water boilers
(2) Steam boilers
(3) Closed-loop heating systems
(4) Closed-loop cooling systems
(5) Condenser water
(6) Chilled water

b. Boiler/furnace stack gases analysis
(1) Temperature

(2) CO, CO_2, O_2, NO_x

c. Ambient air conditions
- **(1) Temperature**
- **(2) Carbon Dioxide**
- **(3) Oxygen**
- **(4) Humidity**
- **(5) Contaminates**

d. Process wastewater
- **(1) PH**
- **(2) Contaminates**

e. Testing the "Sequence of Operation" for the following equipment:
- **(1) Air Compressors**
- **(2) Air Conditioners**
- **(3) Air Dryers**
- **(4) Boilers**
- **(5) Chillers**
  - **(a) Absorption**
  - **(b) Reciprocating**
  - **(c) Centrifugal**
- **(6) Controls**
  - **(a) Direct digital controls**
  - **(b) Electric controls**
  - **(c) Electronic controls**
  - **(d) Pneumatic controls**
- **(7) Cooling towers**
- **(8) Fan units**
- **(9) Fire alarm systems**
- **(10) Heat exchangers**
  - **(a) Air to air**
  - **(b) Air to water**
  - **(c) Water to air**
  - **(d) Water to water**
- **(11) Heat pumps**
- **(12) Humidifiers**
- **(13) Motor starters**
- **(14) Production equipment**
- **(15) Pumps**
- **(16) Refrigeration equipment**
- **(17) Resource recovery and CO-generation equipment**
- **(18) Steam Turbines and Engines**
- **(19) Special machines within the craft jurisdiction by contract**

f. Electrical
- **(1) Testing for continuity, grounds, short circuits, etc., on the electrical circuits of:**

- **(a) Air Compressors**
- **(b) Air Conditioners**
- **(c) Air Dryers**
- **(d) Boilers**
- **(e) Chillers**
- **(f) Controls**
  - **1) Transformers**
  - **2) Solenoid operations**
  - **3) Timers and timing devices**
  - **4) Control devices**
  - **5) Connecting three-phase and single-phase motors**
  - **6) Reversing motor direction**
  - **7) Reduced voltage starting**
  - **8) Overload protection/overload heater selection.**
  - **9) Inherent motor protection**
  - **10) Braking circuits**
  - **11) Photo-electric/proximity sensors**
  - **12) Programmable controllers**
  - **13) Direct digital Controllers**
  - **14) Contactors, starters and relays**
  - **15) Motor control centers**
- **(g) Cooling towers**
- **(h) Fan units**
- **(i) Fire alarm systems**
- **(j) Heat Exchangers**
  - **1) Air to air**
  - **2) Air to water**
  - **3) Water to air**
  - **4) Water to water**
- **(k) Heat pump**
- **(l) Humidifiers**
- **(m) Lighting**
- **(n) Motors and motor starters**
- **(o) Production equipment**
- **(p) Pumps**
- **(q) Resource recovery and co-generation equipment**
- **(r) Steam Turbines and Engines**
- **(s) Special machines within the craft jurisdiction by contract**

(2) Circuit analysis

- **(a) Ohms law**
- **(b) Rules of line diagrams**
- **(c) Wire codes and amperage calculations**

(d) Numerical cross referencing
(e) Wiring diagrams
(f) Torque and horsepower
(g) AC/DC motor speed control
(h) Solid state starting/speed control
(i) Photo-electric control
(g) Inspection and analysis of mechanical equipment
1) Inspect bearings, belts, sprockets, sheaves, chains, etc.
2) Vibration analysis

4. Preventive Maintenance 1400
Perform the daily, weekly, monthly, quarterly, semi-annual, and annual mechanical and electrical maintenance as needed on the following equipment:
a. Air Compressors
b. Air Conditioners
c. Air Dryers
d. Bearings adjustment
e. Boilers
f. Chillers
g. Controls
(1) Direct digital controls
(2) Electric controls
(3) Electronic controls
(4) Pneumatic controls
h. Cooling towers
i. Electrical Distribution
j. Fan units
k. Fire alarm systems
l. Heat exchangers
(1) Air to air
(2) Air to water
(3) Water to air
(4) Water to water
m. Heat pump
n. Humidifiers
o. Lighting
p. Motor control centers
q. Motors and motor starters
r. Production equipment
s. Pumps
t. Refrigeration equipment
u. Resource recovery and co-generation equipment
v. Steam Turbines and Engines

w. Transformers
x. Any other mechanical/electrical device found in the field

5. Mechanical Repairs 700
Perform the needed mechanical repairs on the following equipment
a. Air Compressors
b. Air Conditioners
c. Air Dryers
d. Boilers
e. Chillers
f. Controls
g. Direct digital controls
(1) Electric controls
(2) Electronic controls
(3) Pneumatic controls
h. Cooling towers
i. Fan units
j. Fire alarm systems
k. Heat exchangers
(1) Air to air
(2) Air to water
(3) Water to air
(4) Water to water
l. Heat pumps
m. Humidifiers
n. Lighting
o. Motors and motor starters
p. Production equipment
q. Pumps
r. Refrigeration equipment
s. Resource recovery and co-generation equipment
t. Steam turbines and engines
u. Any other mechanical device found in the field

6. Plant safety 500
a. Lockout and tagout of energy sources
b. Industrial/CPR first aid
c. Hazardous material
d. Chemical identification safety
e. Emergency procedures
f. OSHA/WISHA/EPA Standards and Regulations
g. General electrical/mechanical safety
h. Industrial Accidents/Reporting
i. Plant general up-keep

7. Fabrication..... 900

- **a. Welding and use of oxy-acetylene equipment**
- **b. Metal cutting power machine**
- **c. Shop and bench work**
- **d. Job planning**
- **e. Line voltage/low voltage circuitry**
- **h. Circuit Analysis**
  - **(1) Ohms law**
  - **(2) Rules of line diagrams**
  - **(3) Wire codes and amperage calculations**
  - **(4) Numerical cross referencing**
  - **(5) Wring Diagrams**
  - **(6) Torque and horsepower**
  - **(7) AC/DC motor speed control**
  - **(8) Solid state starting/speed control**
  - **(9) Photo-electric control**
  - **(10) Panel box connections**
  - **(11) Conduit bending**
  - **(12) Control devices**
  - **(13) Connecting three-phase and single-phase motors**
  - **(14) Reversing motor direction**
  - **(15) Reduced voltage starting**
  - **(16) Overload protection/overload heater selection**
  - **(17) Inherent motor protection**
  - **(18) Braking circuits**
  - **(19) Photo-electric/proximity sensors**
  - **(20) Programmable controllers**
  - **(21) Direct digital controllers**

8. Electrical Repairs..... 1400

Perform the needed electrical repairs on the following equipment:

- **a. AC/DC power generation equipment**
- **b. Transformers and solenoids**
- **c. Contactors, relays and starters**
- **d. Line voltage and control voltage wiring**
- **e. Motor overload protection**
- **f. Timers and timing devices**
- **g. Motor control centers**
- **h. Control devices and sensors**
- **i. Programmable controllers**
- **j. Direct digital controllers**
- **k. Any other line voltage and/or low voltage device encountered in the field**

In addition, the apprentice will be taught the use, care and safe handling of all tools, materials and apparatus commonly used in connection with the Stationary Operating Engineers trade.

TOTAL HOURS: 8000

C. Warehouseman **Approximate Hours**

1. Orientation.....200
- **a. Terminology**
- **b. Maintenance procedures**
- **c. Methods of shipment and costs**

2. Receiving.....1000
- **a. Receives goods and places in stock inventory**
- **b. Inspects freight damage and makes proper claims**
- **c. Completes all paper work and return to business office**
- **d. Keep yearly records of all items received**

3. Inventory and Stock Control 600
- **a. Keeps inventory of warehouse**
- **b. Adds all new items to District inventory**
- **c. Keeps track of all back order**

4. Housekeeping of Warehouse.....100

TOTAL HOURS: 2000

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

The apprentice must attend related/supplemental instruction. Time spent in related/supplemental instruction will not be considered as hours of work, and the apprentice is not to be paid for time so spent, unless otherwise stated in these Standards.

The sponsor/training agent must provide for instruction of the apprentice during the related/supplemental instruction in safe and healthful work practices in compliance with the Washington Industrial Safety and Health Act, and applicable federal and state regulations.

In case of failure on the part of any apprentice to fulfill this obligation, the sponsor has authority to take disciplinary action (see Administrative/Disciplinary Procedures section).

Clock hours of actual attendance by the apprentice in related/supplemental instruction classes at the community/technical college or other approved training locations shall be reported to L&I on a quarterly basis for verifying attendance and industrial insurance purposes.

For industrial insurance purposes, the WSATC will be considered as the employer should any apprentice, not being paid to attend, sustain an injury while participating in related/supplemental classroom activity, or other directly related activity outside the classroom. The activities must be at the direction of the instructor.

The methods of related/supplemental training must consist of one or more of the following:

(X) Supervised field trips

(X) Approved training seminars

( ) A combination of home study and approved correspondence courses

(X) State Community/Technical college

( ) Private Technical/Vocational college

(X) Training trust

( ) Other (specify)**:**

144 Minimum RSI hours per year, (see WAC 296-05-305(5))

Additional Information:

The Apprenticeship Committee recommends that the courses for Stationary Operating Engineers be limited to those who are actually apprentices in the Stationary Operating Engineer Trade in accordance with these Standards.

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

Sponsors may include in this section requirements and expectations of the apprentices and training agents and an explanation of disciplinary actions that may be imposed for noncompliance. The sponsor has the following disciplinary procedures that they may impose: Disciplinary Probation, Suspension, or Cancellation.

Disciplinary Probation: A time assessed when the apprentice's progress is not satisfactory. During this time the program sponsor may withhold periodic wage advancements, suspend or cancel the apprenticeship agreement, or take further disciplinary action. A disciplinary probation may only be assessed after the initial probation is completed. During the disciplinary probation, the apprentice has the right to file an appeal of the committee's action with the WSATC (as described in WAC 296-05-009).

Suspension: A suspension is a temporary interruption in progress of an individuals apprenticeship program that may result in the cancellation of the Apprenticeship Agreement. Could include temporarily not being allowed to work, go to school or take part in any activity related to the Apprenticeship Program until such time as the Apprenticeship Committee takes further action.

Cancellation: Refers to the termination of an apprenticeship agreement at the request of the apprentice, supervisor, or sponsor. (as described in WAC 296-05-009).

A. General Procedures

1. To review every 1000 hours the progress of each apprentice. Apprentices must complete at least 72 hours of related supplemental instruction every six months of their apprenticeship term. All parties participating under the Standards may be asked for a report on each apprentice.

a. If the apprentice does not comply with the above rule, they may be placed on probation. The Apprenticeship Committee will determine terms of the probation.

b. The Apprenticeship Committee shall have the authority to withhold advancement, suspend, or cancel the Agreement for failure to comply but any action must conform to the appeal requirements. The Apprentice in question will receive a notice twenty (20) days prior to

any hearing or meeting that would suspend or cancel their Agreement.

2. Periodic Evaluation and Work Progress Record Books:

a. Each apprentice will be furnished with a "Work Progress Record Book" which must be signed or initialed at the end of each month by the timekeeper or foreman supervising the apprentice. The record must be submitted to the Training Office no later than the fifth of the following month regardless if the apprentice is working or not.

b. If the apprentice violates the above rule three (3) times, they may be placed on probation. The Apprenticeship Committee will determine terms of the probation.

c. The Apprenticeship Committee shall have the authority to withhold advancement, suspend, or cancel the Agreement for failure to comply but any action must conform to the appeal requirements. The Apprentice in question will receive a notice twenty (20) days prior to any hearing or meeting that would suspend or cancel their Agreement.

B. Local Apprenticeship Committee Policies

NONE

C. Complaint and Appeal Procedures:

All approved programs must establish procedures explaining the program's complaint review process. Complaints that involve matters covered by a collective bargaining agreement are not subject to the complaint review procedures in this section.

Complaint (after initial probation completed) – WAC 296-05-009 and 296-05-316(21)

Prior to: 20 days of intention of disciplinary action by a committee/organization

- Committee/organization must notify the apprentice in writing of action to be taken
- Must specify the reason(s) for discipline, suspension, or cancellation
- Decision will become effective immediately
- Written reason(s) for such action will be sent to the apprentice

Within: 30 days request for reconsideration from the committee

- Apprentice to request local committee to reconsider their action

Within: 30 days of apprentice's request for reconsideration

- Local committee/organization must provide written notification of their final decision

If apprentice chooses to pursue the complaint further:

Within: 30 days of final action

- Apprentice must submit the complaint in writing to the supervisor (L&I)
- Must describe the controversy and provide any backup information
- Apprentice must also provide this information to the local committee/organization

Within: 30 days for supervisor to complete investigation

- If no settlement is agreed upon during investigation, then supervisor must issue a written decision resolving the controversy when the investigation is concluded

If the apprentice or local committee/organization disputes supervisor decision:

Within: 30 days of supervisor's decision, request for WSATC hearing

- Request must be in writing
- Must specify reasons supporting the request
- Request and supporting documents must be given to all parties
- WSATC must conduct the hearing in conjunction with the regular quarterly meeting

Within: 30 days after hearing

- WSATC to issue written decision

XI. COMMITTEE – RESPONSIBILITIES AND COMPOSITION

NOTE: The following is an overview of the requirements associated with administering an apprenticeship committee and/or program. These provisions are to be used with the corresponding RCW and/or WAC.

The sponsor is the policymaking and administrative body responsible for the operation and success of this apprenticeship program. A committee is responsible for the day-to-day operations of the apprenticeship program and they must be knowledgeable in the process of apprenticeship and/or the application of Chapter 49.04 RCW and Chapter 296-05 WAC. Sponsors must develop procedures for:

A. Committee Operations (WAC 296-05-316): (Not applicable for Plant Programs) Convene meetings at least three times per year of the program sponsor and

apprenticeship committee attended by a quorum of committee members as defined in the approved Standards. If the committee does not indicate its definition of quorum, the interpretation will be "50% plus 1" of the approved committee members. Conference call meetings may be conducted in lieu of regular meetings but must not exceed the number of attended meetings and no disciplinary action can be taken during conference call meetings.

B. Program Operations (Chapter 296-05 WAC - Part C & D):

1. The sponsor will record and maintain records pertaining to the local administration of the apprenticeship program and make them available to the WSATC or its representative on request.

   Records required by WAC 296-05-400 through 455 (see Part D of Chapter 296-05 WAC) will be maintained for five (5) years; all other records will be maintained for three (3) years.

2. The sponsor will submit to L&I through the assigned state apprenticeship coordinator the following list:

   Forms are available on line at http://www.LNI.wa.gov/scs/apprenticeship or from your assigned apprenticeship coordinator.
   - Apprenticeship Agreement Card – within first 30 days of employment
   - Authorization of Signature - as necessary
   - Authorized Training Agent Agreements (committee approving or canceling) – within 30 days
   - Apprenticeship Committee Meeting Minutes – within 30 days of meeting (not required for Plant program)
   - Change of Status – within 30 days of action by committee, with copy of minutes
   - Journey Level Wage – at least annually, or whenever changed
   - Revision of Standards and/or Committee Composition - as necessary
   - RSI (Quarterly) Reports:
     1st quarter: January through March, by April 10
     2nd quarter: April through June, by July 10
     3rd quarter: July through September, by October 10
     4th quarter: October through December, by January 10

3. Adopt, as necessary, local program rules or policies to administer the apprenticeship program in compliance with these Standards that must be submitted for L&I approval and updating these Standards. The L&I apprenticeship program manager may administratively approve requests for revisions in the following areas of the Standards:
   - Program name
   - Section III: Conduct of Program Under Washington Equal Employment Opportunity Plan

- Section VII: Apprentice Wages and Wage Progression
- Section IX: Related/Supplemental Instruction
- Section XI: Committee - Responsibilities and Composition (including opening statements)
- Section XII: Subcommittees
- Section XIII: Training Director/Coordinator

C. Management of Apprentices:

1. Each apprentice (and, if under 18 years of age, the parent or guardian) will sign an apprenticeship agreement with the sponsor, who will then register the agreement, with L&I before the apprentice attends the related/supplemental instruction classes, or within the first 30 days of employment as an apprentice. For the purposes of industrial insurance coverage and prevailing wage exemption under RCW 39.12.021, the effective date of registration will be the date the agreement is received by L&I.

   L&I must be notified within 30 days of program approval, of all requests for disposition or modification of agreements, with a copy of the committee minutes approving the changes, which may be:
   - Certificate of completion
   - Additional credit
   - Suspension (i.e. military service or other)
   - Reinstatement
   - Cancellation and/or
   - Corrections

2. Rotate apprentices in the various processes of the skilled occupation to ensure the apprentice is trained to be a competent journey-level worker.

3. Periodically review and evaluate apprentices before advancement to the apprentice's next wage progression period. The evidence of such advancement will be the record of the apprentice's progress on the job and during related/supplemental instruction.

4. The sponsor has the obligation and responsibility to provide, insofar as possible, continuous employment for all apprentices in the program. The sponsor may arrange to transfer an apprentice from one training agent to another, or to another sponsor when the sponsor is unable to provide reasonably continuous employment, or they are unable to provide apprentices the diversity of experience necessary for training and experience in the various work processes as stated in these Standards. The new sponsor or training agent will assume all the terms and conditions of these Standards. If, for any reason, a layoff of an apprentice occurs, the apprenticeship agreement will remain in effect unless canceled by the sponsor.

5. An apprentice who is unable to perform the on-the-job portion of apprenticeship training may, if the apprentice so requests and the sponsor approves, participate in related/supplemental instruction, subject to the apprentice obtaining and providing to the sponsor written requested document/s for such participation. However, time spent will not be applied toward the on-the-job portion of apprenticeship training.

6. Hear and adjust all complaints of violations of apprenticeship agreements.

7. Upon successful completion of apprenticeship, as provided in these Standards, and passing the examination that the sponsor may require, the sponsor will recommend that the WSATC award a Certificate of Completion of Apprenticeship. The program will make an official presentation to the apprentice that has successfully completed his/her term of apprenticeship.

D. Training Agent Management:

1. Offer training opportunities on an equal basis to all employers and apprentices. Grant equal treatment and opportunity for all apprentices through reasonable working and training conditions and apply those conditions to all apprentices uniformly. Provide training at a cost equivalent to that incurred by currently participating employers and apprentices. Not require an employer to sign a collective bargaining agreement as a condition of participation.

2. Determine the adequacy of an employer to furnish proper on-the-job training in accordance with the provisions of these Standards. Require all employers requesting approved training agent status to complete an approved training agent agreement and comply with all federal and state apprenticeship laws and the appropriate apprenticeship Standards.

3. Submit approved training agent agreements to the department with a copy of the agreement and/or the list of approved training agents within thirty days of committee approval. Submit rescinded approved training agent agreements and/or the list of approved training agents to the department within thirty days of said action.

E. Composition of Committee: (see WAC 296-05-313)

Apprenticeship committees must be composed of an equal number of management and non-management representatives composed of at least four members but no more than twelve. If the committee does not indicate its definition of a quorum, the interpretation will be "50% plus 1" of the approved committee members.

Apprenticeship committees shall elect a chairperson and a secretary who shall be from opposite interest groups, i.e., chairperson-employers; secretary-employees, or

vice versa; EXCEPT, this does not apply where the Registration Agency represents the apprentice(s).

For plant programs the WSATC or the department designee will act as the employee representative.

Quorum: **SEE ABOVE**

Program type administered by the committee: **GROUP JOINT**

The Apprenticeship Committee will be composed of six (6) members; three (3) members representing the employers of Stationary Engineers and three (3) members representing the Western Washington Stationary Engineer, Local 286, Renton, Washington.

The employer representatives shall be:

Daryl Ray Walker, Chairman
Renton Technical College
4000 4th Avenue
Renton, WA 98056-4195

Mike Anderson
Clover Park Technical College
4500 Steilacoom Blvd. SW
Lakewood, WA 98499

Thomas Watson, III
Port of Seattle
PO Box 68727, Sea-Tac Airport
Seattle, WA 98168-0727

The employee representatives shall be:

Roberta Burnett, Secretary
IUOE Local 286
18 E Street SW
Auburn, WA 98001

Jan Pelroy
IUOE Local 286
18 E Street SW
Auburn, WA 98001

Keith F. Cokely
19819 132nd Place SE
Renton, WA 98050

XII. SUBCOMMITTEE:

Subcommittee(s) approved by L&I, represented equally from management and non-management, may also be established under these Standards, and are subject to the main committee. All actions of the subcommittee(s) must be approved by the main committee.

NONE

XIII. TRAINING DIRECTOR/COORDINATOR:

The sponsor may employ a person(s) as a full or part-time training coordinator(s)/training director(s). This person(s) will assume responsibilities and authority for the operation of the program as are delegated by the sponsor.

David Hutchins, Training Director
Western Washington Stationary Engineers JATC
18 E Street SW
Auburn, WA 98001